

DuPont Engineering  
Barley Mill Plaza - Bldg. 27  
Lancaster Pike & Rte. 141  
Wilmington, DE 19805



DuPont Engineering

Certified Mail  
Return Receipt Requested

June 11, 2003

Mr. Andrew Park  
RCRA Program Branch, 22nd Floor  
U.S. Environmental Protection Agency, Region II  
290 Broadway Avenue  
New York, NY 10007-1866

Mr. Frank Faranca  
NJDEP  
Bur.of Fed. Case Mgmt.  
401 East State Street  
P.O. Box 028  
Trenton, NJ 08625-0028

Re: **Salem Canal Seep**  
**DuPont Chambers Works Plant**  
**Deepwater, New Jersey**

Dear Mr. Park and Mr. Faranca:

This submittal is to update you on the Salem Canal seep that was detected during the drought in August 2002. We currently have a reasonable understanding of the situation and feel that we are not causing a problem to human health and the environment. We have implemented a program to remove DNAPL routinely from a nearby source area that was detected during our seep evaluation. Future work includes the installation of more monitoring wells to determine the extent of groundwater contamination and an assessment of the potential fate of and exposure to these constituents.

In addition to the Technical Memorandum that is attached, we are sending both of you a CD that includes this cover letter and the Memorandum. The Memorandum includes a section on the proposed work and another section on the schedule. Note that we will provide you a work plan for the proposed work once we receive Agency conceptual agreement of our proposal. If you need to further discuss this in a conference call or meeting, please let me know. You can email me or call me at 302-892-0647.

Very truly yours,

Albert J. Boettler  
Senior Environmental Consultant  
Corporate Remediation – NJ

# Technical Memorandum

Date: June 11, 2003

Re: Salem Canal Seep

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This technical memorandum was prepared to update the New Jersey Department of Environmental Protection (NJDEP) and the U.S. Environmental Protection Agency (USEPA) on the seep that was identified near the Salem Canal at DuPont Chambers Works Facility (Facility) located in Deepwater, New Jersey (see Figure 1).

## OVERVIEW

During the drought in August 2002, a purple groundwater seep was discovered entering the Salem Canal from the Facility. The NJDEP Hotline was notified immediately, and NJDEP Federal Case Manager was also informed. DuPont implemented emergency measures by installing a boom/silt curtain in the canal. Investigative activities were also initiated to identify the source and character of the seep. At the time of the observation of the seep, the water level within the canal was at a record low. The extent of the seep was approximately 100 feet along the bank (see Figure 2).

Investigative activities included sampling and analysis of surface water and groundwater in the area of the seep to chemically characterize the seep and to evaluate groundwater containment. Constituents detected in the seep are primarily volatile organic compounds that are not persistent in the environment and do not bioaccumulate. Since the canal is used for the plant's fire, process, and potable water supply, the surface water near the potable water intake was sampled to confirm that contamination was not present. Sampling of the potable water intake on the Munson Dam is continuing on a regular basis, and the results continue to be non-detectable. Sampling completed to date indicates that the seep constituents are being contained within the boom/silt curtain that was deployed after the seep discovery.

DuPont has developed a site conceptual model for this area. Potential source areas have been evaluated by reviewing historical aerial photographs and conducting interviews with former employees. The likely source of the seep is related to the former Azo dye manufacturing area. Azo dye manufacturing occurred in the area from 1918 (estimated) until 1975. Figure 3 presents a historical aerial photograph of the area in 1927.

An additional groundwater investigation is planned for the area around the seep. Data from this investigation will be used to refine the conceptual model. The following activities will be included in this investigation:

- Installing new monitoring wells
- Sampling and analyzing groundwater
- Measuring water levels to evaluate flow directions

- Conducting a more detailed evaluation of the fate/transport of the constituents detected and potential ecological receptors

DNAPL has been encountered in two of the new wells that were installed in March 2003. The DNAPL has since been chemically characterized and is currently removed twice a week from one well and once a week from another well. The current conceptual model indicates that groundwater may be entering the canal. Seep data collected to date indicate that DNAPL has not entered the canal. The results of extensive groundwater sampling conducted on the south side of the canal (*Salem Canal Groundwater Study Tech Memo, March 2000* and *Chambers Works Salem Canal Supplemental Investigation Tech Memo, April 2001*) show no evidence of DNAPL, nor do these investigations show groundwater concentrations that would suggest the presence of DNAPL. As previously indicated, the boom/silt curtain is containing the dissolved seep constituents to a discrete and localized area within the canal.

Currently, actions taken at Salem Canal are protective of human health and the environment by containing surface water within the seep area using the boom/silt curtain and removing DNAPL from the wells. Additional data collection will refine the conceptual model to assist in developing a longer term remedial solution.

### **SEEP ACTIVITIES AND RESULTS**

Table 1 summarizes the sampling and analysis program conducted to date. Analytical results of the seep sample, surface-water samples, groundwater samples, and a DNAPL sample collected from well G05-M03B are summarized in Tables 2, 3, 4, and 5, respectively.

Surface-water samples include detections of aniline, benzene, chlorobenzene, 1,2-dichlorobenzene, and 4-chloroaniline. Table 3 presents surface-water sample results. Generally, constituents detected in the surface water were near the center of the seep inside the boom/silt curtain. No constituents were detected 10 feet upstream of the boom/silt curtain or at the potable water intake. The constituents found in the surface water were limited to the seep area.

Five new monitoring wells were installed to characterize groundwater in the vicinity of the seep. Each new well boring was visually logged and scanned with a PID. Groundwater was sampled two weeks after well development per the *New Jersey Field Procedures Manual*. The groundwater analytical data show elevated results for aniline, benzene, chlorobenzene, 1,2-dichlorobenzene, and 4-chloroaniline. All results are presented in Table 4. The highest results were found in general proximity to the center of the seep in well G05-P02B. The constituents detected in the groundwater were also detected in the seep.

DNAPL is present in two new monitoring wells (G05-P02B and G05-M03B) north of the Salem Canal. G05-P02B is located adjacent to the canal bank and G05-M03B is located approximately 50 feet north of G05-P02B on the other side of Canal Road. The analytical results of the DNAPL indicated the presence of 1,2,4-trichlorobenzene, 1-2-dichlorobenzene, chlorobenzene, and n-nitrosodiphenylamine. All 209 PCB congeners were analyzed, and none were detected in the DNAPL. Table 5 summarizes the DNAPL results.

DNAPL is being removed from each of the two wells. Well G05-M03B yields approximately 1.4 liters of DNAPL per day. DuPont plans to install an automatic pumping collection system in this well. Well G05-P02B yields approximately 0.1 liter. DNAPL removal in this well will continue on a weekly basis.

## SITE CONCEPTUAL MODEL

DuPont has reviewed historical and newly gathered information, boring logs, analytical results, and groundwater elevation maps. Two new cross-sections were generated from this information. The locations of the cross-sections are shown in Figure 4. Figure 5 shows an east to west cross-section along the Salem Canal to the base of the B aquifer. Figure 6 shows a north to south cross-section across the Salem Canal to the base of the B aquifer. Both cross-sections show monitoring well G05-P02B, which is located at the top of the bank, closest to the center of the seep. This well had the most evidence of purple staining during well installation from approximately -5.5 to -12.5 feet. Figure 7 shows an existing cross-section that parallels the Salem Canal and extends to the base D/E clay.

The purple staining of the seep appears to originate in the B aquifer sand zone, above a gravelly zone. The constituents detected in the seep correlate to chemicals used in Azo dye manufacturing area.

As shown on the groundwater elevation maps (see Figures 9 through 11), groundwater within the C, D, and E aquifers is contained by the interceptor well system. However, the B aquifer in the Salem Canal area does not appear to be contained (see Figure 8). Groundwater flow is towards Salem Canal when the water level of the canal was at an elevation of 1.57 feet NGVD. During normal summer conditions, the water level of the canal is maintained at 1.74 feet NGVD and 1.04 feet NGVD during the remainder of the year.

## CONCLUSIONS

Based upon the results of the activities performed, the following conclusions were drawn:

- The seep was identified in the Salem Canal during drought conditions, when the water level was at a record low.
- The seep-related constituents are similar to those used in the former Azo dye area.
- The seep is limited in extent – a maximum of approximately 100 feet along the bank.
- Seep-related constituents detected in the Salem Canal surface water were only detected within the boomed area and at low concentrations.
- Five monitoring wells were installed near the seep in February and March 2003. DNAPL was detected in two of the monitoring wells.
- The main constituents detected in the DNAPL include 1,2,4-trichlorobenzene, 1,2-dichlorobenzene, chlorobenzene, and n-nitrosodiphenylamine. PCBs were not detected.
- No DNAPL was detected in the seep; only dissolved constituents were detected.
- No DNAPL was detected south of the Salem Canal during previous investigations.
- All seep-related constituents continue to be non-detect in samples collected from the potable water intake.
- DNAPL continues to be removed from two monitoring wells near the canal.

## WORK PROPOSED TO REFINE CONCEPTUAL MODEL

To refine the current conceptual model, DuPont proposes to perform the following work:

- Constituents detected in the seep, surface water, groundwater, and DNAPL will be evaluated using the existing data to determine their fate and transport within the canal. Literature-based ecological benchmarks and constituent-specific, qualitative fate and transport characteristics will be used to evaluate whether there is a potential concern for ecological receptors.
- Six additional B aquifer monitoring wells will be installed to delineate the extent of the impacted groundwater within the B aquifer. Three wells will be located along the bank of the Salem Canal, two to the east and one to the west of well G05-P02B. G05-P02B is located closest to the center of the seep. These additional wells will be strategically located to provide adequate coverage of the B aquifer. The proposed locations are shown in Figure 12.
- Additional water levels will be measured from the canal and the newly installed monitoring wells, as well as the existing monitoring wells, to better determine hydrogeologic conditions such as flow directions and gradients in the B aquifer.
- To verify existing information of the conceptual model, wells on the south side of the Salem Canal will be evaluated again for DNAPL.
- DuPont will continue to remove DNAPL from the monitoring wells near the canal. An automatic pumping collection system will be installed in well G03-M03B.

## SCHEDULE

DuPont has developed the following schedule for upcoming work:

- DNAPL will continue to be removed on a weekly basis, and DuPont will install an automatic pumping collection system in well G03-M03B.
- The risk evaluation will be completed by the end of June 2003. The results will be provided to NJDEP.
- DuPont will prepare a work plan upon receiving agency approval of this technical memorandum.
- Field work will commence upon agency approval of the work plan.
- The results of the additional work will be presented in a report and submitted to NJDEP and EPA.

TABLES

FIGURES

**Table 1**  
**Summary of Salem Canal Seep-Related Activities Performed to Date**  
**DuPont Chambers Works**

Action	Date	Objective	Analytes	Comment
Sample seep	August 9, 2002	Characterize constituents	PPL vocs, svocs + library search and 1- and 2-naphthylamine; PPL metals	Seep contained no NAPL phase- only dissolved constituents. Boom/silt curtain installed as a result of findings.
Sample surface waters	Late August/early October 2002	Characterize ambient surface water quality	PPL vocs, svocs + library search, 1- and 2-naphthylamine, aniline, 4-chloroaniline, o-toulidine	Seep-related constituents detected were only detected within the boomed area and at low concentrations.
Potable water intake samples	Weekly - August to October 2002; Biweekly - November 2002 to present	Determine whether seep-related constituents are present in potable water.	PPL vocs, svocs + library search, 1- and 2-naphthylamine, aniline, 4-chloroaniline, o-toulidine	Seep-related constituents were not detected in the potable water intake.
Installed and sampled five monitoring wells	February and March 2003	Characterize groundwater in the vicinity of the seep	PPL vocs, svocs + library search, 1- and 2-naphthylamine, aniline, 4-chloroaniline, o-toulidine, carbazole, 4,4'-Diaminobenzophenone, 4,4'-methyleneb benzenamine, 4-aminobiphenyl	Generally, the highest seep-related constituents were found in the well closest to the center of the seep.
DNAPL sample and recovery	Sampled - April 23, 2002; DNAPL recovery - weekly	Characterize DNAPL in the vicinity of the seep	PPL vocs, svocs + library search, 1- and 2-naphthylamine, aniline, 4-chloroaniline, o-toulidine, 209 PCB congeners	No PCBs were detected. Ongoing weekly DNAPL recovery continues.

**Table 2: Summary of Analytical Results**  
**Salem Canal Seep**

Analyte	Units	Total (T)/ Diss. (D)	SALEM CANAL_SEEP 8/9/2002
1,1,1-TRICHLOROETHANE	ug/l	T	ND (0.8) U
1,1,2,2-TETRACHLOROETHANE	ug/l	T	ND (1.) U
1,1,2-TRICHLOROETHANE	ug/l	T	ND (0.8) U
1,1-DICHLOROETHANE	ug/l	T	ND (1.) U
1,1-DICHLOROETHENE	ug/l	T	ND (0.8) U
1,2-DICHLOROETHANE	ug/l	T	ND (1.) U
1,2-DICHLOROPROPANE	ug/l	T	ND (1.) U
2-CHLOROETHYL VINYL ETHER	ug/l	T	ND (2.) U
ACROLEIN	ug/l	T	ND (40.) U
ACRYLONITRILE	ug/l	T	ND (4.) U
BENZENE	ug/l	T	19
BROMODICHLOROMETHANE	ug/l	T	ND (1.) U
BROMOFORM	ug/l	T	ND (1.) U
CARBON TETRACHLORIDE	ug/l	T	ND (1.) U
CHLOROBENZENE	ug/l	T	770
CHLOROETHANE	ug/l	T	ND (1.) U
CHLOROFORM	ug/l	T	ND (0.8) U
CIS-1,2-DICHLOROETHENE	ug/l	T	ND (0.8) U
CIS-1,3-DICHLOROPROPENE	ug/l	T	ND (1.) U
DIBROMOCHLOROMETHANE	ug/l	T	ND (1.) U
ETHYLBENZENE	ug/l	T	4. J
METHYL BROMIDE	ug/l	T	ND (1.) U
METHYL CHLORIDE	ug/l	T	ND (1.) U
METHYLENE CHLORIDE	ug/l	T	ND (2.) U
TETRACHLOROETHENE	ug/l	T	ND (0.8) U
TOLUENE	ug/l	T	5. J
TRANS-1,2-DICHLOROETHENE	ug/l	T	ND (0.8) U
TRANS-1,3-DICHLOROPROPENE	ug/l	T	ND (1.) U
TRICHLOROETHENE	ug/l	T	ND (1.) U
TRICHLOROFLUOROMETHANE	ug/l	T	ND (2.) U
VINYL CHLORIDE	ug/l	T	ND (1.) U
XYLENES (TOTAL)	ug/l	T	27
1,2,4-TRICHLOROBENZENE	ug/l	T	42. J
1,2-DICHLOROBENZENE	ug/l	T	450 J
1,2-DIPHENYLHYDRAZINE	ug/l	T	ND (5.) U
1,3-DICHLOROBENZENE	ug/l	T	36 J
1,4-DICHLOROBENZENE	ug/l	T	190 J
1-NAPHTHYLAMINE	ug/l	T	45. J
2,4,6-TRICHLOROPHENOL	ug/l	T	ND (5.) U
2,4-DICHLOROPHENOL	ug/l	T	ND (5.) U
2,4-DIMETHYLPHENOL	ug/l	T	ND (5.) U
2,4-DINITROPHENOL	ug/l	T	ND (96.) U
2,4-DINITROTOLUENE	ug/l	T	ND (5.) U
2,6-DINITROTOLUENE	ug/l	T	ND (5.) U
2-CHLORONAPHTHALENE	ug/l	T	ND (5.) U
2-CHLOROPHENOL	ug/l	T	ND (5.) U
2-NAPHTHYLAMINE	ug/l	T	30. J
2-NITROPHENOL	ug/l	T	ND (5.) U
3,3'-DICHLOROBENZIDINE	ug/l	T	ND (5.) U
4,6-DINITRO-2-METHYLPHENOL	ug/l	T	ND (24.) U
4-BROMOPHENYL PHENYL ETHER	ug/l	T	ND (5.) U
4-CHLORO-3-METHYLPHENOL	ug/l	T	ND (5.) U
4-CHLOROANILINE	ug/l	T	570 JX
4-CHLOROPHENYL PHENYL ETHER	ug/l	T	ND (5.) U
4-NITROPHENOL	ug/l	T	ND (48.) U
ACENAPHTHENE	ug/l	T	ND (5.) U
ACENAPHTHYLENE	ug/l	T	ND (5.) U
ANILINE	ug/l	T	120 J
ANTHRACENE	ug/l	T	ND (5.) U
BENZIDINE	ug/l	T	ND (96.) U

< and ND = Non detect at stated reporting limit

**Table 2: Summary of Analytical Results**  
**Salem Canal Seep**

Analyte	Units	Total (T)/ Diss. (D)	SALEM_CANAL_SEEP 8/9/2002
BENZO(A)ANTHRACENE	ug/l	T	ND (5.) U
BENZO(A)PYRENE	ug/l	T	ND (5.) U
BENZO(B)FLUORANTHENE	ug/l	T	ND (5.) U
BENZO(G,H,I)PERYLENE	ug/l	T	ND (5.) U
BENZO(K)FLUORANTHENE	ug/l	T	ND (5.) U
BIS(2-CHLOROETHOXY)METHANE	ug/l	T	ND (5.) U
BIS(2-CHLOROETHYL) ETHER	ug/l	T	ND (5.) U
BIS(2-CHLOROISOPROPYL)ETHER	ug/l	T	ND (5.) U
BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	T	ND (10.) U
BUTYL BENZYL PHTHALATE	ug/l	T	ND (10.) U
CARBAZOLE	ug/l	T	20 J
CHRYSENE	ug/l	T	ND (5.) U
DI-N-BUTYL PHTHALATE	ug/l	T	ND (10.) U
DI-N-OCTYL PHTHALATE	ug/l	T	ND (10.) U
DIBENZO(A,H)ANTHRACENE	ug/l	T	ND (5.) U
DIETHYL PHTHALATE	ug/l	T	ND (10.) U
DIMETHYL PHTHALATE	ug/l	T	ND (10.) U
FLUORANTHENE	ug/l	T	ND (5.) U
FLUORENE	ug/l	T	ND (5.) U
HEXACHLOROBENZENE	ug/l	T	ND (5.) U
HEXACHLOROBUTADIENE	ug/l	T	ND (5.) U
HEXACHLOROCYCLOPENTADIENE	ug/l	T	ND (24.) U
HEXACHLOROETHANE	ug/l	T	ND (5.) U
INDENO(1,2,3-CD)PYRENE	ug/l	T	ND (5.) U
ISOPHORONE	ug/l	T	ND (5.) U
N-NITROSODI-N-PROPYLAMINE	ug/l	T	ND (5.) U
N-NITROSODIMETHYLAMINE	ug/l	T	ND (10.) U
N-NITROSODIPHENYLAMINE	ug/l	T	660
NAPHTHALENE	ug/l	T	39 J
NITROBENZENE	ug/l	T	ND (5.) U
PENTACHLOROPHENOL	ug/l	T	ND (14.) U
PHENANTHRENE	ug/l	T	ND (5.) U
PHENOL	ug/l	T	ND (5.) U
PYRENE	ug/l	T	ND (5.) U
ANTIMONY	ug/l	T	ND (9.9) U
ARSENIC	ug/l	T	5.9 J
BERYLLIUM	ug/l	T	ND (.50) U
CADMIUM	ug/l	T	ND (.94) U
CHROMIUM	ug/l	T	ND (2.0) U
COPPER	ug/l	T	5.5
LEAD	ug/l	T	ND (8.9) U
MERCURY	ug/l	T	ND (.079) U
NICKEL	ug/l	T	2.5 J
SELENIUM	ug/l	T	ND (4.8) U
SILVER	ug/l	T	2.0 J
THALLIUM	ug/l	T	ND (9.5) U
ZINC	ug/l	T	ND (4.9) U
UNKNOWN	ug/l	T	44 J
1,1'-BIPHENYL-2-AMINE	ug/l	T	420 JX

< and ND = Non detect at stated reporting limit

**Table 3: Summary of Analytical Results**  
**Surface Water**

Analyte	Units	Total (T)/ Diss. (D)	Sample ID Date	CANAL-1 10/11/2002	CANAL-2 10/11/2002	CANAL-3 10/11/2002	CANAL-4 10/11/2002	CANAL-5 10/11/2002	SALEM CANAL DOWN 8/19/2002	SALEM CANAL MID 8/19/2002	SALEM CANAL UP 8/19/2002
BENZENE, DICHLORO- ISOMER	ug/l	T			26 J	19 J	19 J		8. J		
UNKNOWN ALKANE	ug/l	T							5 J		
1,1,1-TRICHLOROETHANE	ug/l	T		ND (0.8) U	ND (0.8) U	ND (0.8) U					
1,1,2,2-TETRACHLOROETHANE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
1,1,2-TRICHLOROETHANE	ug/l	T		ND (0.8) U	ND (0.8) U	ND (0.8) U					
1,1-DICHLOROETHANE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
1,1-DICHLOROETHENE	ug/l	T		ND (0.8) U	ND (0.8) U	ND (0.8) U					
1,2-DICHLOROETHANE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
1,2-DICHLOROPROPANE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
2-CHLOROETHYL VINYL ETHER	ug/l	T		ND (2.) U	ND (2.) U	ND (2.) U					
ACROLEIN	ug/l	T		ND (40.) U	ND (40.) U	ND (40.) U					
ACRYLONITRILE	ug/l	T		ND (4.) U	ND (4.) U	ND (4.) U					
BENZENE	ug/l	T		ND (0.5) U	3. J	2. J	2. J	ND (0.5) U	0.7 J	ND (0.5) U	ND (0.5) U
BROMODICHLOROMETHANE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
BROMOFORM	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
CARBON TETRACHLORIDE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
CHLOROBENZENE	ug/l	T		6	74	55	57	2. J	13	4. J	ND (0.8) U
CHLOROETHANE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
CHLOROFORM	ug/l	T		ND (0.8) U	ND (0.8) U	ND (0.8) U					
CIS-1,2-DICHLOROETHENE	ug/l	T		ND (0.8) U	ND (0.8) U	ND (0.8) U					
CIS-1,3-DICHLOROPROPENE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
DIBROMOCHLOROMETHANE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
ETHYLBENZENE	ug/l	T		ND (0.8) U	ND (1.) U	ND (1.) U	ND (1.) U				
METHYL BROMIDE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
METHYL CHLORIDE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
METHYLENE CHLORIDE	ug/l	T		ND (2.) U	ND (2.) U	ND (2.) U					
TETRACHLOROETHENE	ug/l	T		ND (0.8) U	ND (0.8) U	ND (0.8) U					
TOLUENE	ug/l	T		ND (0.7) U	ND (0.7) U	ND (0.7) U					
TRANS-1,2-DICHLOROETHENE	ug/l	T		ND (0.8) U	ND (0.8) U	ND (0.8) U					
TRANS-1,3-DICHLOROPROPENE	ug/l	T		ND (1.) U	ND (1.) U	ND (0.8) U	ND (0.8) U	ND (0.8) U	ND (0.8) U	ND (0.8) U	ND (0.8) U
TRICHLOROETHENE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
TRICHLOROFLUOROMETHANE	ug/l	T		ND (2.) U	ND (2.) U	ND (2.) U					
VINYL CHLORIDE	ug/l	T		ND (1.) U	ND (1.) U	ND (1.) U					
XYLENES (TOTAL)	ug/l	T		ND (0.8) U	1. J	ND (0.8) U	ND (0.8) U	ND (0.8) U	ND (0.8) U	ND (0.8) U	ND (0.8) U
1,2,4-TRICHLOROBENZENE	ug/l	T		ND (0.9) U	4. J	2. J	3. J	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
1,2-DICHLOROBENZENE	ug/l	T		ND (0.9) U	31	19	21	ND (1.) U	8. J	3. J	ND (1.) U
1,2-DIPHENYLHYDRAZINE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
1,3-DICHLOROBENZENE	ug/l	T		ND (0.9) U	5. J	4. J	4. J	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
1,4-DICHLOROBENZENE	ug/l	T		ND (0.9) U	13	9. J	11	ND (1.) U	3. J	ND (1.) U	ND (1.) U
1-NAPHTHYLAMINE	ug/l	T		ND (5.) U	ND (6.) U	ND (6.) U	ND (6.) U				
2,4,6-TRICHLOROPHENOL	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
2,4-DICHLOROPHENOL	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U

< and ND = Non detect at stated reporting limit

**Table 3: Summary of Analytical Results**  
**Surface Water**

Analyte	Units	Total (T)/ Diss. (D)	Sample ID Date	CANAL-1 10/11/2002	CANAL-2 10/11/2002	CANAL-3 10/11/2002	CANAL-4 10/11/2002	CANAL-5 10/11/2002	SALEM CANAL DOWN 8/19/2002	SALEM CANAL MID 8/19/2002	SALEM CANAL UP 8/19/2002
2,4-DIMETHYLPHENOL	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
2,4-DINITROPHENOL	ug/l	T		ND (19.) U	ND (20.) U	ND (20.) U	ND (19.) U	ND (20.) U	ND (22.) U	ND (24.) U	ND (24.) U
2,4-DINITROTOLUENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
2,6-DINITROTOLUENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
2-CHLORONAPHTHALENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
2-CHLOROPHENOL	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
2-NAPHTHYLAMINE	ug/l	T		ND (5.) U	ND (6.) U	ND (6.) U	ND (6.) U				
2-NITROPHENOL	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
3,3'-DICHLOROBENZIDINE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
4,6-DINITRO-2-METHYLPHENOL	ug/l	T		ND (5.) U	ND (6.) U	ND (6.) U	ND (6.) U				
4-BROMOPHENYL PHENYL ETHER	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
4-CHLORO-3-METHYLPHENOL	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
4-CHLOROANILINE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	23 JX	ND (1.) U			
4-CHLOROPHENYL PHENYL ETHER	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
4-NITROPHENOL	ug/l	T		ND (9.) U	ND (10.) U	ND (10.) U	ND (10.) U	ND (10.) U	ND (11.) U	ND (12.) U	ND (12.) U
ACENAPHTHENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
ACENAPHTHYLENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
ANILINE	ug/l	T		ND (0.9) U	13	10	12	ND (1.) U			
ANTHRACENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
BENZIDINE	ug/l	T		ND (19.) U	ND (20.) U	ND (20.) U	ND (19.) U	ND (20.) U	ND (22.) U	ND (24.) U	ND (24.) U
BENZO(A)ANTHRACENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
BENZO(A)PYRENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
BENZO(B)FLUORANTHENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
BENZO(G,H,I)PERYLENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
BENZO(K)FLUORANTHENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
BIS(2-CHLOROETHoxy)METHANE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
BIS(2-CHLOROETHYL) ETHER	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
BIS(2-CHLORoisOPROPYL)ETHER	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
BIS(2-ETHYLHEXYL)PHTHALATE	ug/l	T		ND (2.) U	ND (1.) U	ND (1.) U					
BUTYL BENZYL PHTHALATE	ug/l	T		ND (2.) U	ND (2.) U	ND (2.) U					
CHRYSENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
DI-N-BUTYL PHTHALATE	ug/l	T		ND (2.) U	ND (2.) U	ND (2.) U					
DI-N-OCTYL PHTHALATE	ug/l	T		ND (2.) U	ND (2.) U	ND (2.) U					
DIBENZO(A,H)ANTHRACENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
DIETHYL PHTHALATE	ug/l	T		ND (2.) U	ND (2.) U	ND (2.) U					
DIMETHYL PHTHALATE	ug/l	T		ND (2.) U	ND (2.) U	ND (2.) U					
FLUORANTHENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
FLUORENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
HEXACHLOROBENZENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
HEXACHLOROBUTADIENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
HEXACHLOROCYCLOPENTADIENE	ug/l	T		ND (5.) U	ND (6.) U	ND (6.) U	ND (6.) U				
HEXACHLOROETHANE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U

< and ND = Non detect at stated reporting limit

**Table 3: Summary of Analytical Results**  
**Surface Water**

Analyte	Units	Total (T)/ Diss. (D)	Sample ID Date	CANAL-1 10/11/2002	CANAL-2 10/11/2002	CANAL-3 10/11/2002	CANAL-4 10/11/2002	CANAL-5 10/11/2002	SALEM CANAL DOWN 8/19/2002	SALEM CANAL MID 8/19/2002	SALEM CANAL UP 8/19/2002
INDENO(1,2,3-CD)PYRENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
ISOPHORONE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
N-NITROSODI-N-PROPYLAMINE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
N-NITROSODIMETHYLAMINE	ug/l	T		ND (2.) U	ND (2.) U	ND (2.) U					
N-NITROSODIPHENYLAMINE	ug/l	T		ND (2.) U	17	12	13	ND (2.) U	ND (2.) U	ND (2.) U	ND (2.) U
NAPHTHALENE	ug/l	T		ND (0.9) U	2. J	1. J	1. J	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
NITROBENZENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
O-TOLUIDINE	ug/l	T		ND (0.9) U	16	12	15	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
PENTACHLOROPHENOL	ug/l	T		ND (3.) U	ND (4.) U	ND (4.) U					
PHENANTHRENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
PHENOL	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
PYRENE	ug/l	T		ND (0.9) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U	ND (1.) U
4-HYDROXY-4-METHYL2PENTANONE	ug/l	T		4 JB	7 JB			5 JB		-999	
O-CHLOROANILINE	ug/l	T				18 JX					
UNKNOWN	ug/l	T		12 J	7 J	6 J	7 J	10 J	16 J	18 J	22 J
1,1'-BIPHENYL-2-AMINE	ug/l	T			12 JX	10 JX	11 JX				

< and ND = Non detect at stated reporting limit

**Table 4: Summary of Analytical Results**  
**Groundwater**

Analyte	Units	Total (T)/ Diss. (D)	Sample ID Date	G05-M02B 3/21/2003	G05-P01B 3/21/2003	G05-P02B 3/21/2003	G05-P03B 3/21/2003	G05-P04B 3/21/2003
BENZENE, DICHLORO- ISOMER	ug/l	T		9100 J	170 J	42000 J	410 J	3100 J
1,1,1-TRICHLOROETHANE	ug/l	T		ND (16.) U	ND (8.) U	ND (20.) U	ND (2.) U	ND (16.) U
1,1,2,2-TETRACHLOROETHANE	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	ND (2.) U	ND (20.) U
1,1,2-TRICHLOROETHANE	ug/l	T		ND (16.) U	ND (8.) U	ND (20.) U	ND (2.) U	ND (16.) U
1,1-DICHLOROETHANE	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	4. J	ND (20.) U
1,1-DICHLOROETHENE	ug/l	T		ND (16.) U	ND (8.) U	ND (20.) U	ND (2.) U	ND (16.) U
1,2-DICHLOROETHANE	ug/l	T		82. J	30. J	ND (25.) U	ND (2.) U	ND (20.) U
1,2-DICHLOROPROPANE	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	ND (2.) U	ND (20.) U
2-CHLOROETHYL VINYL ETHER	ug/l	T		ND (40.) U	ND (20.) U	ND (50.) U	ND (4.) U	ND (40.) U
ACROLEIN	ug/l	T		ND (800.) U	ND (400.) U	ND (1000.) U	ND (80.) U	ND (800.) U
ACRYLONITRILE	ug/l	T		ND (80.) U	ND (40.) U	ND (100.) U	ND (8.) U	ND (80.) U
BENZENE	ug/l	T		2200	920	330	42	50. J
BROMODICHLOROMETHANE	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	ND (2.) U	ND (20.) U
BROMOFORM	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	ND (2.) U	ND (20.) U
CARBON TETRACHLORIDE	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	ND (2.) U	ND (20.) U
CHLOROBENZENE	ug/l	T		23000	16000	40000	1200	14000
CHLOROETHANE	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	ND (2.) U	ND (20.) U
CHLOROFORM	ug/l	T		ND (16.) U	ND (8.) U	ND (20.) U	ND (2.) U	ND (16.) U
CIS-1,2-DICHLOROETHENE	ug/l	T		20. J	ND (8.) U	ND (20.) U	ND (2.) U	ND (16.) U
CIS-1,3-DICHLOROPROPENE	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	ND (2.) U	ND (20.) U
DIBROMOCHLOROMETHANE	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	ND (2.) U	ND (20.) U
ETHYLBENZENE	ug/l	T		ND (16.) U	13. J	25. J	2. J	ND (16.) U
METHYL BROMIDE	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	ND (2.) U	ND (20.) U
METHYL CHLORIDE	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	ND (2.) U	ND (20.) U
METHYLENE CHLORIDE	ug/l	T		ND (40.) U	ND (20.) U	ND (50.) U	ND (4.) U	ND (40.) U
TETRACHLOROETHENE	ug/l	T		20. J	14. J	ND (20.) U	ND (2.) U	ND (16.) U
TOLUENE	ug/l	T		73. J	61	130	11	ND (14.) U
TRANS-1,2-DICHLOROETHENE	ug/l	T		ND (16.) U	ND (8.) U	ND (20.) U	ND (2.) U	ND (16.) U
TRANS-1,3-DICHLOROPROPENE	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	ND (2.) U	ND (20.) U
TRICHLOROETHENE	ug/l	T		180	31. J	29. J	ND (2.) U	ND (20.) U
VINYL CHLORIDE	ug/l	T		ND (20.) U	ND (10.) U	ND (25.) U	ND (2.) U	ND (20.) U
1,2,4-TRICHLOROBENZENE	ug/l	T		420	2200. J	2800	3. J	14
1,2-DICHLOROBENZENE	ug/l	T		13000	23000	35000	420	2200
1,2-DIPHENYLHYDRAZINE	ug/l	T		54	ND (1.) U	ND (3.) U	ND (1.) U	2. J
1,3-DICHLOROBENZENE	ug/l	T		50	130	190	4. J	42
1,4-DICHLOROBENZENE	ug/l	T		400	1100	1500	32	130
1-NAPHTHYLAMINE	ug/l	T		430. J	43	ND (17.) U	420	270
2,4,6-TRICHLOROPHENOL	ug/l	T		ND (1.) U	4. J	ND (3.) U	ND (1.) U	ND (0.9) U
2,4-DICHLOROPHENOL	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
2,4-DIMETHYLPHENOL	ug/l	T		1. J	2. J	4. J	3. J	ND (0.9) U
2,4-DINITROPHENOL	ug/l	T		ND (20.) U	ND (20.) U	ND (67.) U	ND (20.) U	ND (18.) U
2,4-DINITROTOLUENE	ug/l	T		15	9. J	ND (3.) U	ND (1.) U	ND (0.9) U
2,6-DINITROTOLUENE	ug/l	T		4. J	3. J	ND (3.) U	ND (1.) U	ND (0.9) U
2-CHLORONAPHTHALENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
2-CHLOROPHENOL	ug/l	T		35	38	18. J	3. J	11
2-NAPHTHYLAMINE	ug/l	T		14. J	100. J	210	72	68
2-NITROPHENOL	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
3,3'-DICHLOROBENZIDINE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
4,6-DINITRO-2-METHYLPHENOL	ug/l	T		ND (5.) U	ND (5.) U	ND (17.) U	ND (5.) U	ND (4.) U
4-AMINOBIPHENYL	ug/l	T		9. J	5. J	24. J	ND (2.) U	2. J
4-BROMOPHENYL PHENYL ETHER	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
4-CHLORO-3-METHYLPHENOL	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
4-CHLOROANILINE	ug/l	T		74 JX	11	680 JX	130 JX	2. J
4-CHLOROPHENYL PHENYL ETHER	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
4-NITROPHENOL	ug/l	T		ND (10.) U	ND (10.) U	ND (33.) U	ND (10.) U	ND (9.) U
ACENAPHTHENE	ug/l	T		ND (1.) U	1. J	ND (3.) U	2. J	2. J
ACENAPHTHYLENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
ANILINE	ug/l	T		160. J	480	3200	3100	220
ANTHRACENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	1. J	ND (0.9) U
BENZIDINE	ug/l	T		ND (20.) U	ND (20.) U	72. J	ND (20.) U	ND (18.) U
BENZO(A)ANTHRACENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
BENZO(A)PYRENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U

< and ND = Non detect at stated reporting limit

**Table 4: Summary of Analytical Results**  
**Groundwater**

Analyte	Units	Total (T)/ Diss. (D)	Sample ID Date	G05-M02B 3/21/2003	G05-P01B 3/21/2003	G05-P02B 3/21/2003	G05-P03B 3/21/2003	G05-P04B 3/21/2003
BENZO(B)FLUORANTHENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
BENZO(G,H,I)PERYLENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
BENZO(K)FLUORANTHENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
BIS(2-CHLOROETHOXY)METHANE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
BIS(2-CHLOROETHYL) ETHER	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
BIS(2-CHLOROISOPROPYL)ETHER	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
BIS(2-ETHYLHEXYL)PHthalate	ug/l	T		ND (2.) U	ND (2.) U	250	ND (2.) U	ND (2.) U
BUTYL BENZYL PHTHALATE	ug/l	T		ND (2.) U	ND (2.) U	ND (7.) U	ND (2.) U	ND (2.) U
CARBAZOLE	ug/l	T		8. J	16	20. J	ND (1.) U	4. J
CHRYSENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
DI-N-BUTYL PHTHALATE	ug/l	T		ND (2.) U	ND (2.) U	ND (7.) U	ND (2.) U	ND (2.) U
DI-N-OCTYL PHTHALATE	ug/l	T		ND (2.) U	ND (2.) U	ND (7.) U	ND (2.) U	ND (2.) U
DIBENZO(A,H)ANTHRACENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
DIETHYL PHTHALATE	ug/l	T		ND (2.) U	ND (2.) U	ND (7.) U	ND (2.) U	ND (2.) U
DIMETHYL PHTHALATE	ug/l	T		5. J	ND (2.) U	ND (7.) U	ND (2.) U	ND (2.) U
DIPHENYL ETHER	ug/l	T			100 JX			11 J
FLUORANTHENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
FLUORENE	ug/l	T		ND (1.) U	1. J	ND (3.) U	ND (1.) U	ND (0.9) U
HEXAChLOROBENZENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
HEXAChLOROBUTADIENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
HEXAChLOROCYCLOPENTADIENE	ug/l	T		ND (5.) U	ND (5.) U	ND (17.) U	ND (5.) U	ND (4.) U
HEXAChLOROETHANE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
INDENO(1,2,3-CD)PYRENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
ISOPHORONE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
N-NITROSODI-N-PROPYLAMINE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
N-NITROSODIMETHYLAMINE	ug/l	T		ND (2.) U	ND (2.) U	ND (7.) U	ND (2.) U	ND (2.) U
N-NITROSODIPHENYLAMINE	ug/l	T		1000	1600. J	2900	41	320
NAPHTHALENE	ug/l	T		23	53 J	63	8. J	12
NITROBENZENE	ug/l	T		20	11	35	ND (1.) U	ND (0.9) U
O-TOLUIDINE	ug/l	T		180. J	400	2000	1100	150
PENTACHLOROPHENOL	ug/l	T		ND (3.) U	ND (3.) U	ND (10.) U	ND (3.) U	ND (3.) U
PHENANTHRENE	ug/l	T		ND (1.) U	1. J	ND (3.) U	1. J	ND (0.9) U
PHENOL	ug/l	T		8. J	4. J	4. J	ND (1.) U	ND (0.9) U
PYRENE	ug/l	T		ND (1.) U	ND (1.) U	ND (3.) U	ND (1.) U	ND (0.9) U
(1,1'-BIPHENYL)-2,2'-DIAMINE	ug/l	T		2100 JX	240 JX			
UNKNOWN	ug/l	T		20 J	60 J	710 J	8 J	8 J
1,1'-BIPHENYL-2-AMINE	ug/l	T		81 JX	99 JX	600 JX		33 JX

< and ND = Non detect at stated reporting limit

**Table 5: Summary of Analytical Results  
DNAPL**

Analyte	Units	Total (T)/ Diss. (D)	Sample ID Date	G05-M03B(NAPL) 4/23/2003
BENZENE, DICHLORO- ISOMER	ug/kg	T		19000000 J
PCB 1	ug/kg	T		ND (140.) U
PCB 128	ug/kg	T		ND (40.) U
PCB 18	ug/kg	T		ND (40.) U
PCB 180	ug/kg	T		ND (40.) U
PCB 194	ug/kg	T		ND (40.) U
PCB 206	ug/kg	T		ND (140.) U
PCB 49	ug/kg	T		ND (40.) U
PCB 8	ug/kg	T		ND (40.) U
PCB 87	ug/kg	T		ND (40.) U
1,1,1-TRICHLOROETHANE	ug/kg	T		ND (1000.) U
1,1,2,2-TETRACHLOROETHANE	ug/kg	T		ND (1000.) U
1,1,2-TRICHLOROETHANE	ug/kg	T		ND (1000.) U
1,1-DICHLOROETHANE	ug/kg	T		ND (1000.) U
1,1-DICHLOROETHENE	ug/kg	T		ND (1000.) U
1,2-DICHLOROETHANE	ug/kg	T		9200
1,2-DICHLOROPROPANE	ug/kg	T		ND (1000.) U
BENZENE	ug/kg	T		230000
BROMODICHLOROMETHANE	ug/kg	T		ND (1000.) U
BROMOFORM	ug/kg	T		ND (1000.) U
CARBON TETRACHLORIDE	ug/kg	T		ND (1000.) U
CHLOROBENZENE	ug/kg	T		24000000
CHLOROETHANE	ug/kg	T		ND (2000.) U
CHLOROFORM	ug/kg	T		3500. J
CIS-1,3-DICHLOROPROPENE	ug/kg	T		ND (1000.) U
DIBROMOCHLOROMETHANE	ug/kg	T		ND (1000.) U
ETHYLBENZENE	ug/kg	T		51000
METHYL BROMIDE	ug/kg	T		ND (2000.) U
METHYL CHLORIDE	ug/kg	T		ND (2000.) U
METHYLENE CHLORIDE	ug/kg	T		ND (2000.) U
TETRACHLOROETHENE	ug/kg	T		17000
TOLUENE	ug/kg	T		430000
TRANS-1,2-DICHLOROETHENE	ug/kg	T		ND (1000.) U
TRANS-1,3-DICHLOROPROPENE	ug/kg	T		ND (1000.) U
TRICHLOROETHENE	ug/kg	T		15000
VINYL CHLORIDE	ug/kg	T		ND (1000.) U
XYLEMES (TOTAL)	ug/kg	T		670000
1,2,4-TRICHLOROBENZENE	ug/kg	T		250000000
1,2-DICHLOROBENZENE	ug/kg	T		230000000
1,2-DIPHENYLHYDRAZINE	ug/kg	T		75000. J
1,3-DICHLOROBENZENE	ug/kg	T		730000
1,4-DICHLOROBENZENE	ug/kg	T		5100000. J
2,4,6-TRICHLOROPHENOL	ug/kg	T		ND (25000.) U
2,4-DICHLOROPHENOL	ug/kg	T		ND (25000.) U
2,4-DIMETHYLPHENOL	ug/kg	T		ND (25000.) U
2,4-DINITROPHENOL	ug/kg	T		ND (500000.) U
2,4-DINITROTOLUENE	ug/kg	T		ND (50000.) U
2,6-DINITROTOLUENE	ug/kg	T		ND (25000.) U
2-CHLORONAPHTHALENE	ug/kg	T		ND (25000.) U
2-CHLOROPHENOL	ug/kg	T		ND (25000.) U
2-NITROPHENOL	ug/kg	T		ND (25000.) U
3,3'-DICHLOROBENZIDINE	ug/kg	T		ND (50000.) U
4,6-DINITRO-2-METHYLPHENOL	ug/kg	T		ND (120000.) U
4-BROMOPHENYL PHENYL ETHER	ug/kg	T		ND (25000.) U
4-CHLORO-3-METHYLPHENOL	ug/kg	T		ND (50000.) U
4-CHLOROANILINE	ug/kg	T		ND (25000.) U
4-CHLOROPHENYL PHENYL ETHER	ug/kg	T		ND (25000.) U
4-NITROPHENOL	ug/kg	T		ND (120000.) U
ACENAPHTHENE	ug/kg	T		41000. J
ACENAPHTHYLENE	ug/kg	T		ND (25000.) U
ANILINE	ug/kg	T		560000

< and ND = Non detect at stated reporting limit

**Table 5: Summary of Analytical Results  
DNAPL**

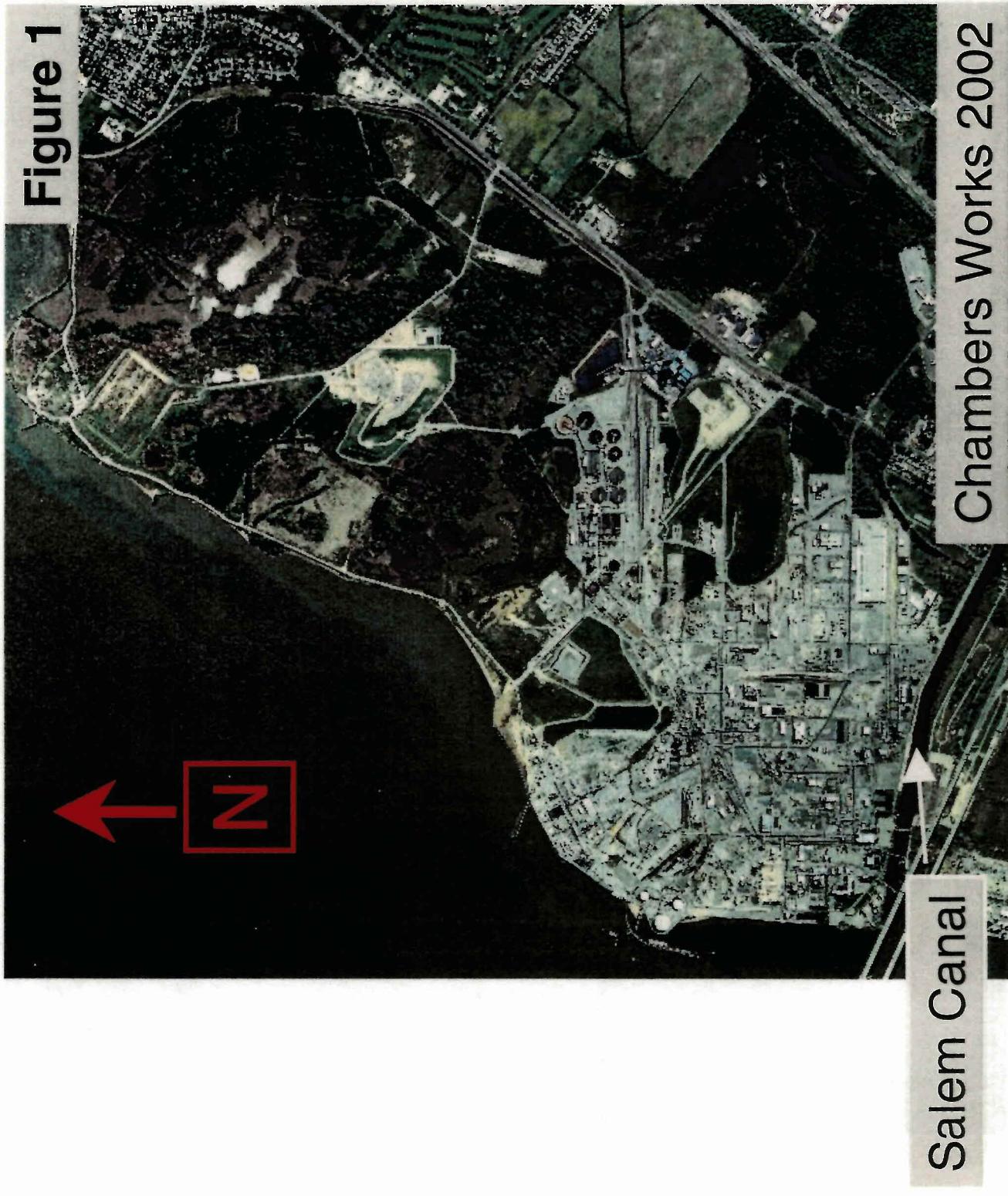
Analyte	Units	Total (T)/ Diss. (D)	Sample ID Date	G05-M03B(DNAPL) 4/23/2003
ANTHRAZENE	ug/kg	T		ND (25000.) U
BENZIDINE	ug/kg	T		ND (500000.) U
BENZO(A)ANTHRACENE	ug/kg	T		ND (25000.) U
BENZO(A)PYRENE	ug/kg	T		ND (25000.) U
BENZO(B)FLUORANTHENE	ug/kg	T		ND (25000.) U
BENZO(G,H,I)PERYLENE	ug/kg	T		ND (25000.) U
BENZO(K)FLUORANTHENE	ug/kg	T		ND (25000.) U
BIS(2-CHLOROETHOXY)METHANE	ug/kg	T		ND (25000.) U
BIS(2-CHLOROETHYL) ETHER	ug/kg	T		ND (25000.) U
BIS(2-CHLOROISOPROPYL)ETHER	ug/kg	T		ND (25000.) U
BIS(2-ETHYLHEXYL)PHTHALATE	ug/kg	T		120000. J
BUTYL BENZYL PHTHALATE	ug/kg	T		ND (50000.) U
CHRYSENE	ug/kg	T		ND (25000.) U
DI-N-BUTYL PHTHALATE	ug/kg	T		ND (50000.) U
DI-N-OCTYL PHTHALATE	ug/kg	T		ND (50000.) U
DIBENZO(A,H)ANTHRACENE	ug/kg	T		ND (25000.) U
DIETHYL PHTHALATE	ug/kg	T		ND (50000.) U
DIMETHYL PHTHALATE	ug/kg	T		ND (50000.) U
DIPHENYL ETHER	ug/kg	T		2000000 JX
FLUORANTHENE	ug/kg	T		40000. J
FLUORENE	ug/kg	T		42000. J
HEXAChLOROBENZENE	ug/kg	T		ND (25000.) U
HEXAChLOROBUTADIENE	ug/kg	T		ND (50000.) U
HEXAChLOROCYCLOPENTADIENE	ug/kg	T		ND (120000.) U
HEXAChLOROETHANE	ug/kg	T		ND (25000.) U
INDENO(1,2,3-CD)PYRENE	ug/kg	T		ND (25000.) U
ISOPHORONE	ug/kg	T		ND (25000.) U
M-DINITROBENZENE	ug/kg	T		ND (50000.) U
N-NITROSODI-N-PROPYLAMINE	ug/kg	T		ND (25000.) U
N-NITROSODIMETHYLAMINE	ug/kg	T		ND (50000.) U
N-NITROSODIPHENYLAMINE	ug/kg	T		17000000. J
NAPHTHALENE	ug/kg	T		55000 J
NITROBENZENE	ug/kg	T		49000. J
PENTACHLOROPHENOL	ug/kg	T		ND (120000.) U
PHENANTHRENE	ug/kg	T		100000. J
PHENOL	ug/kg	T		ND (25000.) U
PYRENE	ug/kg	T		32000. J
AROCLOR 1016	ug/kg	T		ND (50000.) U
AROCLOR 1221	ug/kg	T		ND (130000.) U
AROCLOR 1232	ug/kg	T		ND (50000.) U
AROCLOR 1242	ug/kg	T		ND (50000.) U
AROCLOR 1248	ug/kg	T		ND (50000.) U
AROCLOR 1254	ug/kg	T		ND (50000.) U
AROCLOR 1260	ug/kg	T		ND (50000.) U
ARSENIC	ug/kg	T		ND (160) U
CADMUM	ug/kg	T		ND (91.0) U
CHROMIUM	ug/kg	T		3250 J
COPPER	ug/kg	T		372 J
LEAD	ug/kg	T		ND (940) U
MERCURY	ug/kg	T		ND (29.4) U
NICKEL	ug/kg	T		4840 J
SELENIUM	ug/kg	T		340 J
SILVER	ug/kg	T		ND (100) U
ZINC	ug/kg	T		7680 J
PH (LAB)		T		7.4
CLOSED CUP WASTE FLASH POINT	DEGREES F	T		164
DECACHLOROBIPHENYL	ug/kg	T		ND (40.) U
UNKNOWN	ug/kg	T		21000 J
AZULENE	ug/kg	T		980000 JX

< and ND = Non detect at stated reporting limit

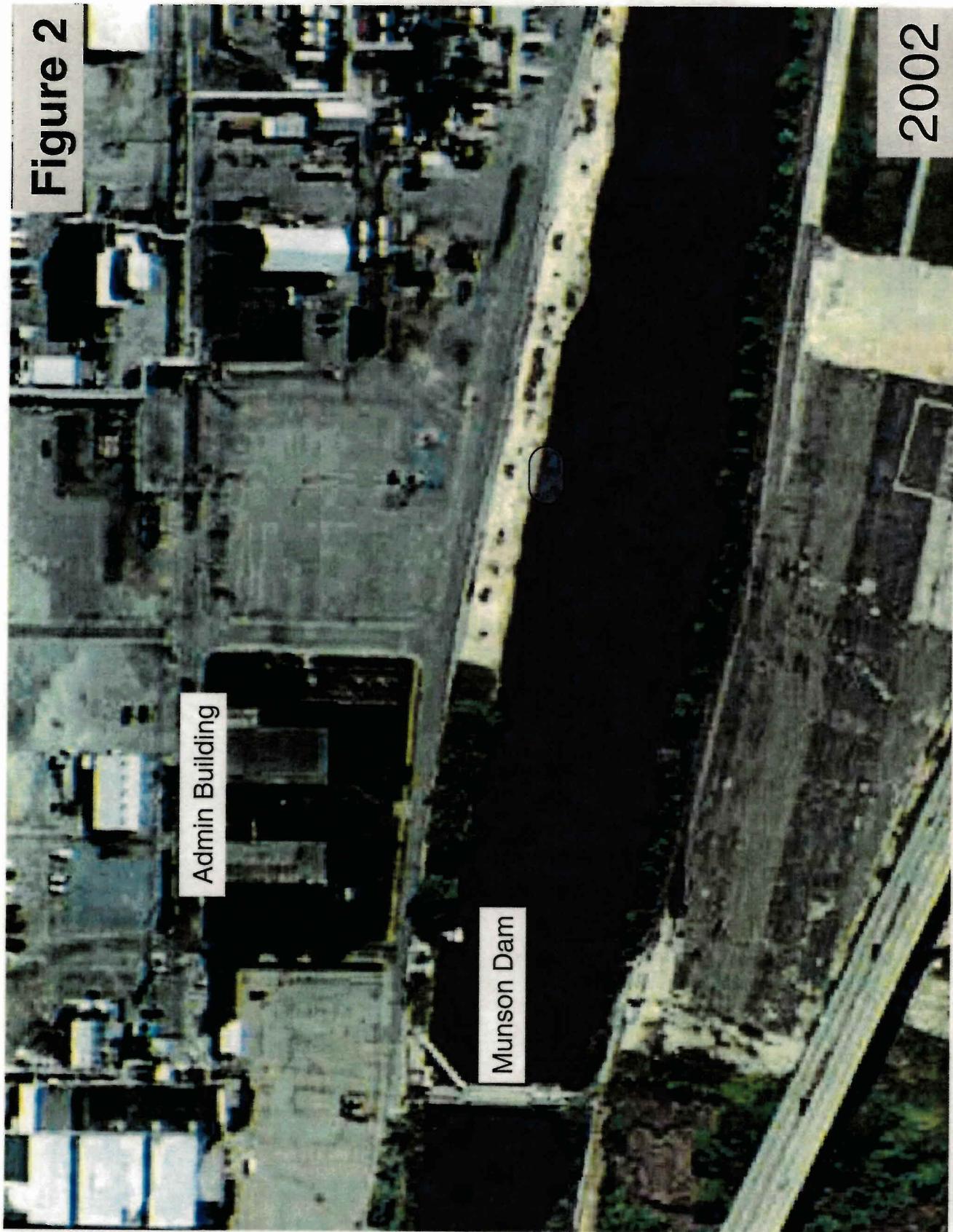
TARIFFS

FIGURES

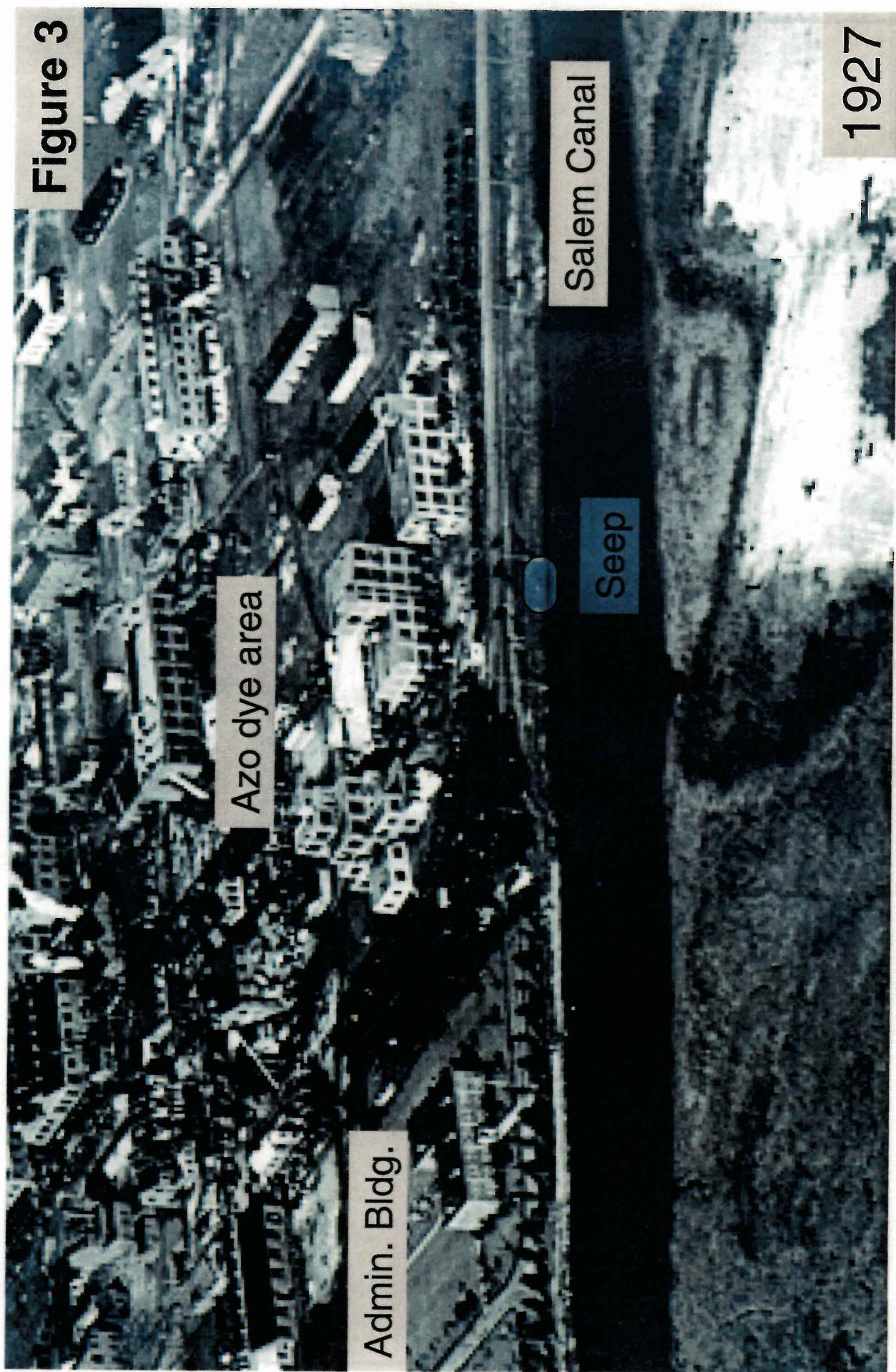
**Figure 1**



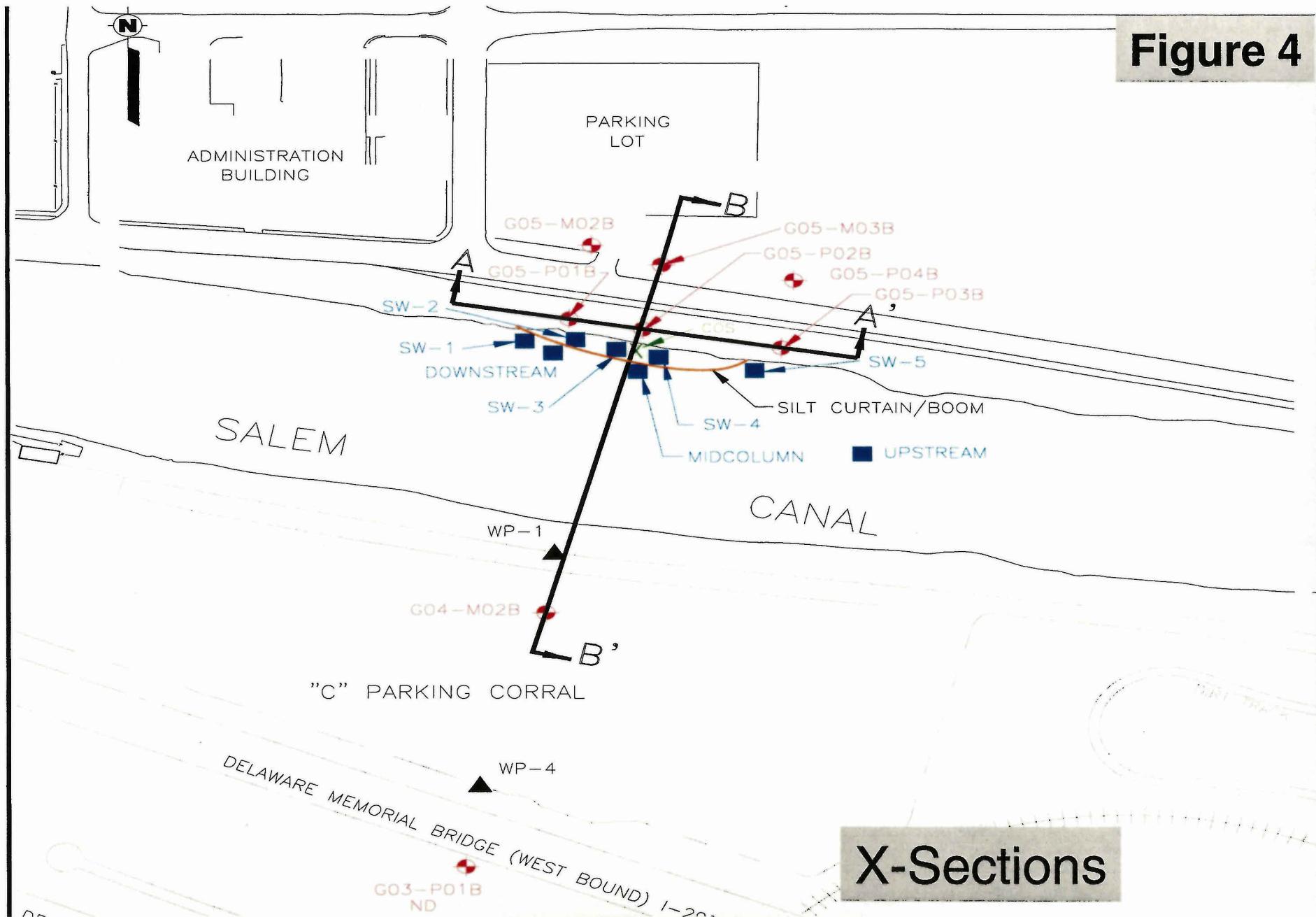
**Figure 2**



**Figure 3**

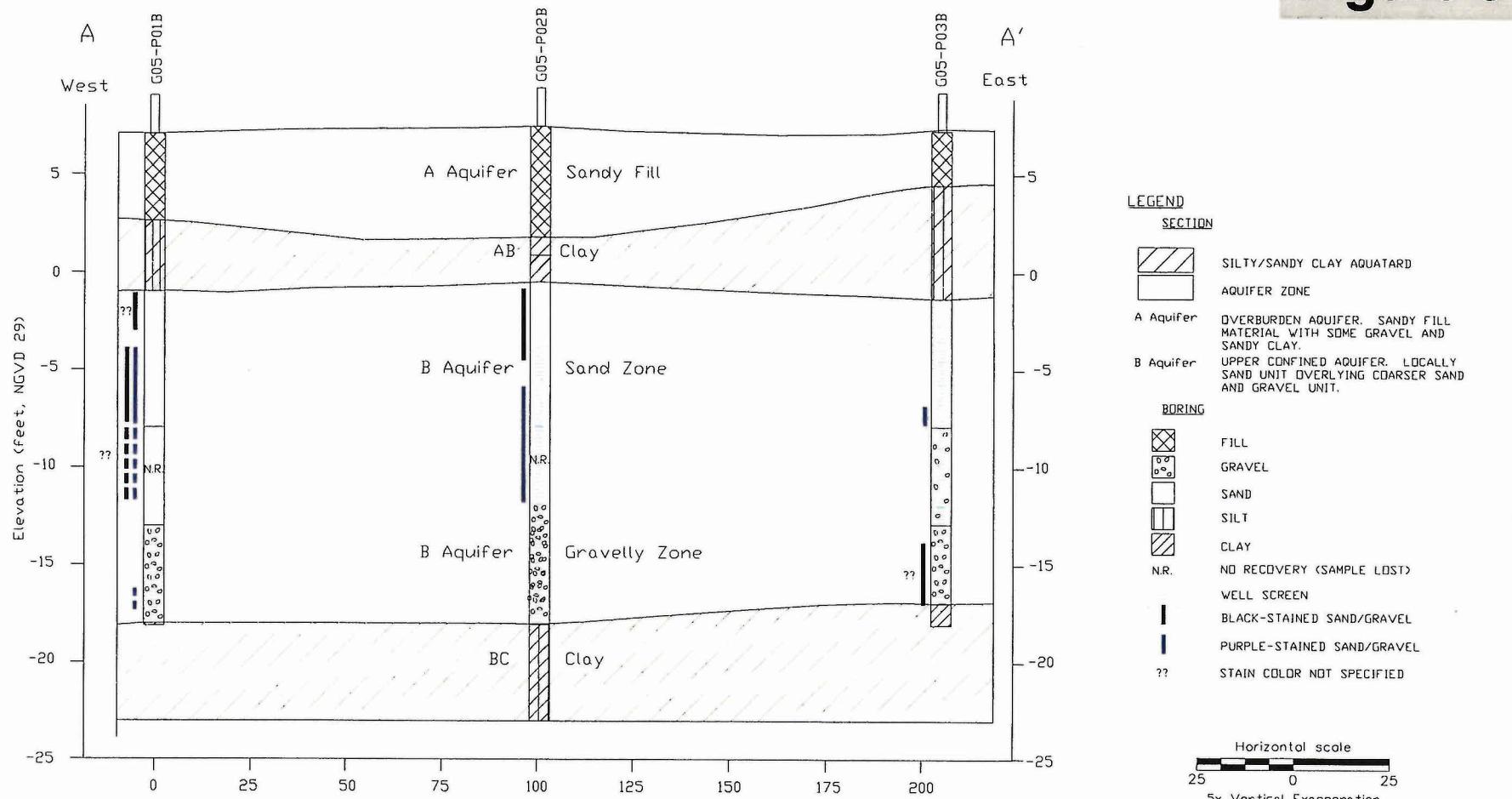


**Figure 4**



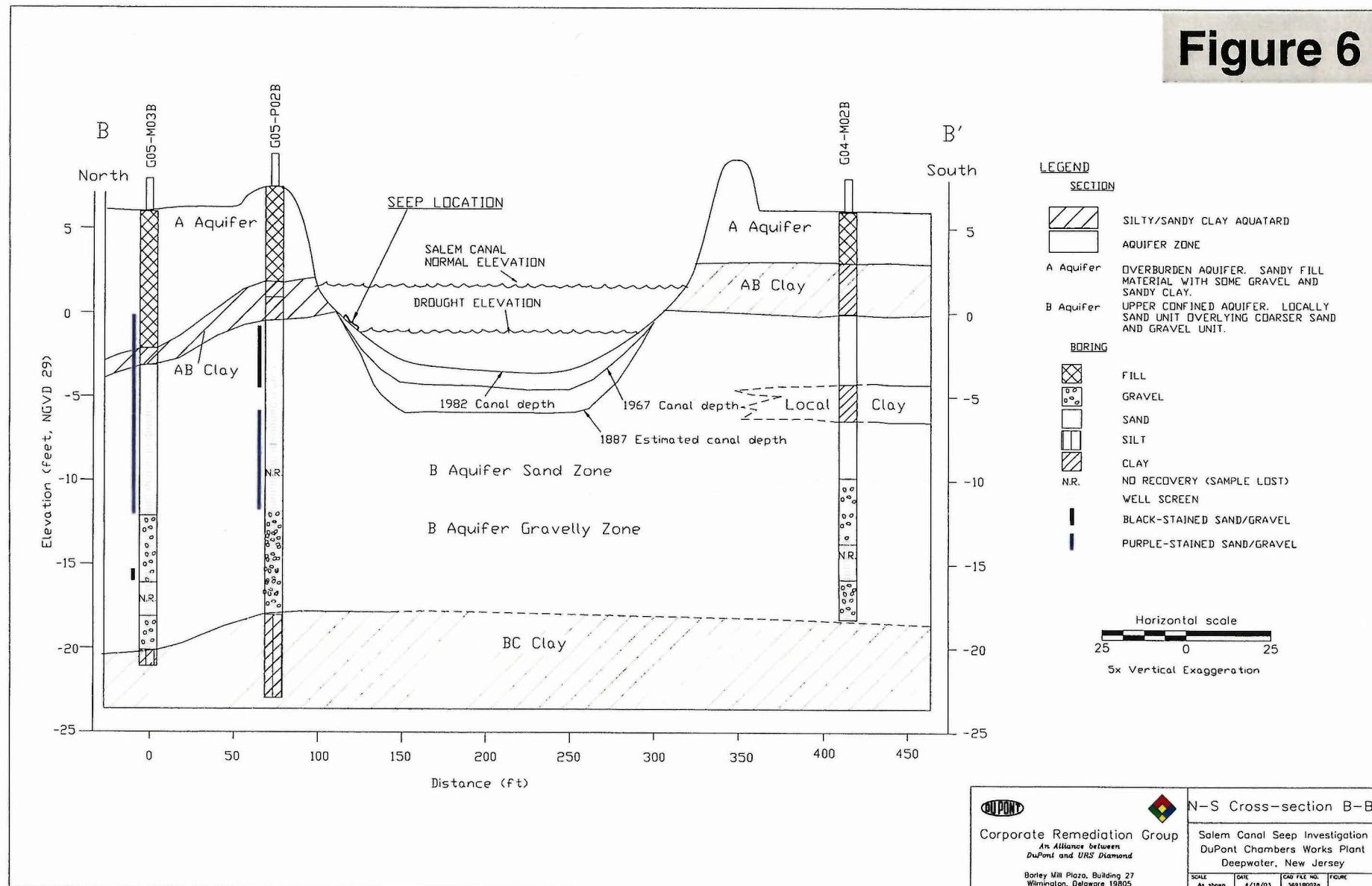
**X-Sections**

# Figure 5

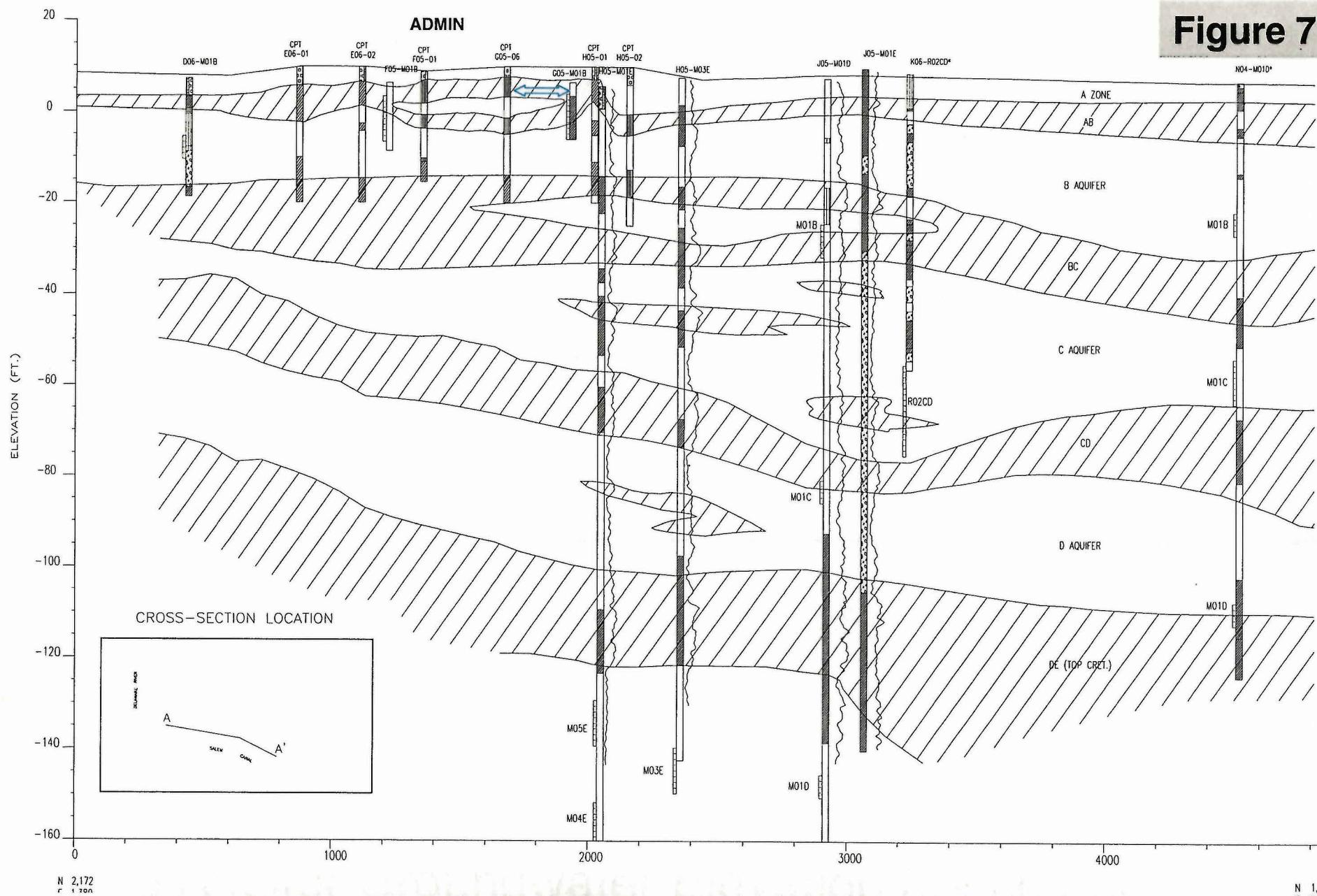


	E-W Cross-section A-A'
Corporate Remediation Group An Alliance between DuPont and URS Diamond	Salem Canal Seep Investigation DuPont Chambers Works Plant Deepwater, New Jersey
Barley Mill Plaza, Building 27 Wilmington, Delaware 19805	SCALE As shown DATE 4/17/03 CAD FILE NO. 36818023 FIGURE

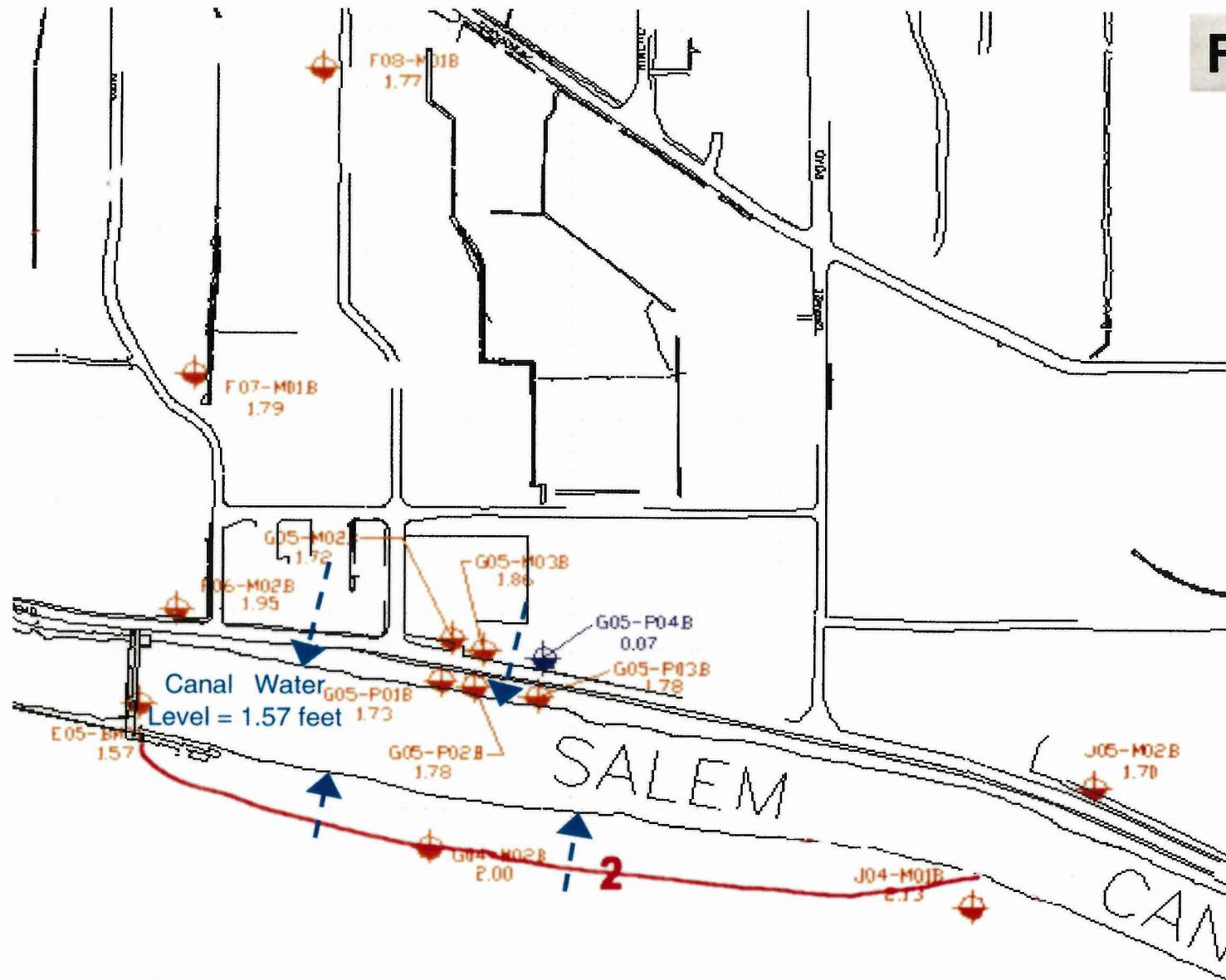
# Figure 6



**Figure 7**

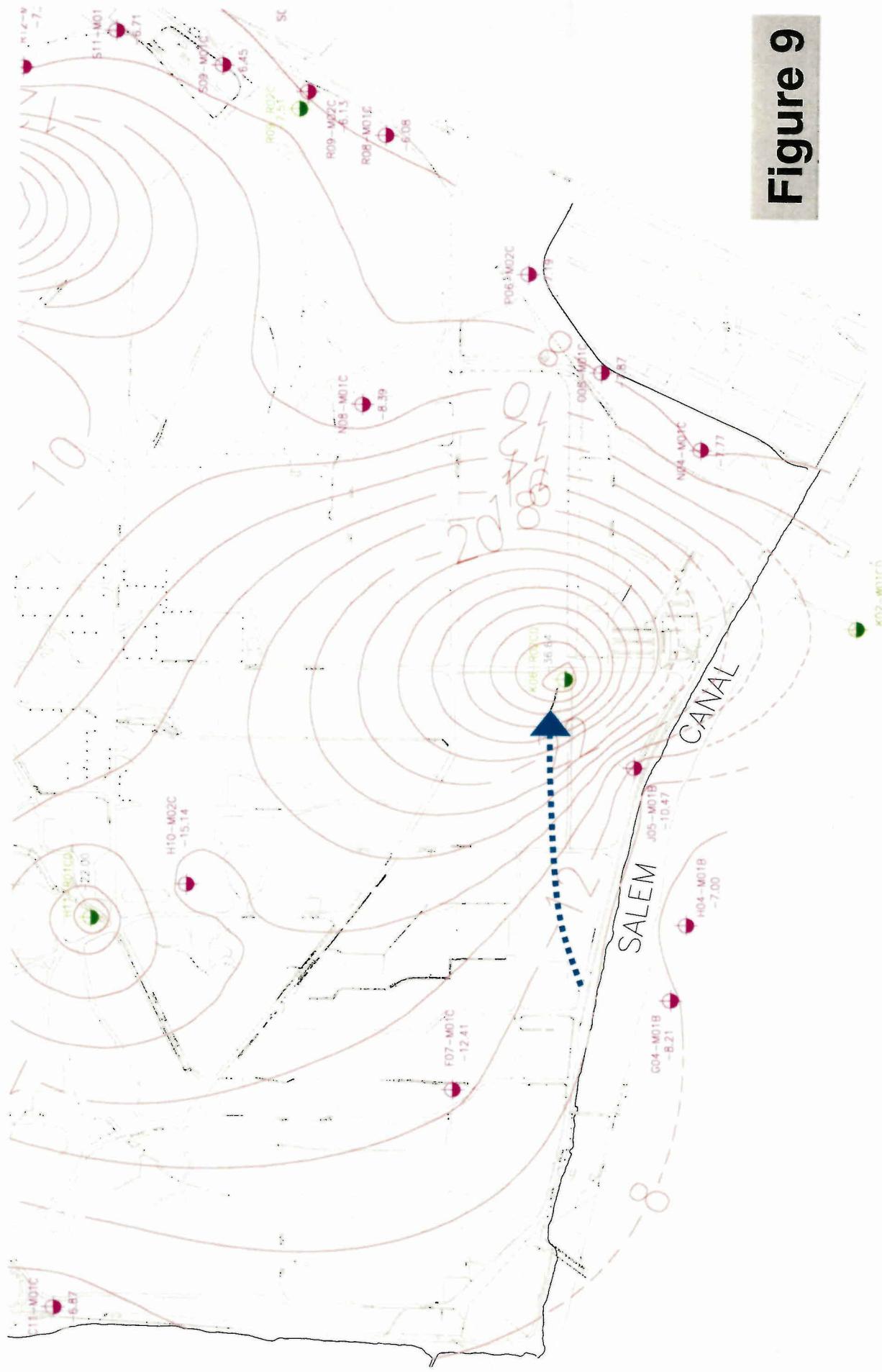


**Figure 8**



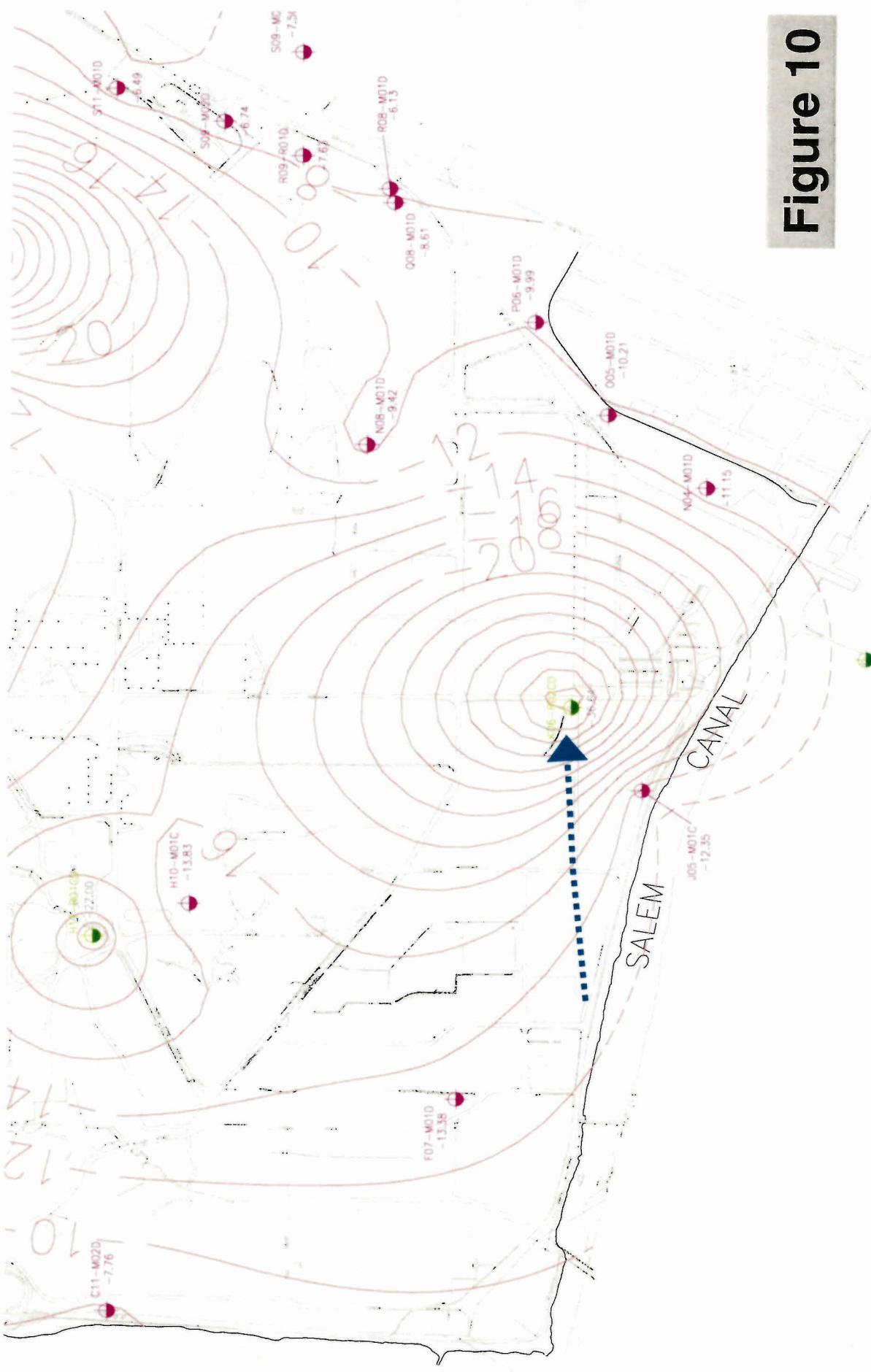
**B Aquifer Groundwater Elevation March 2003**

**Figure 9**



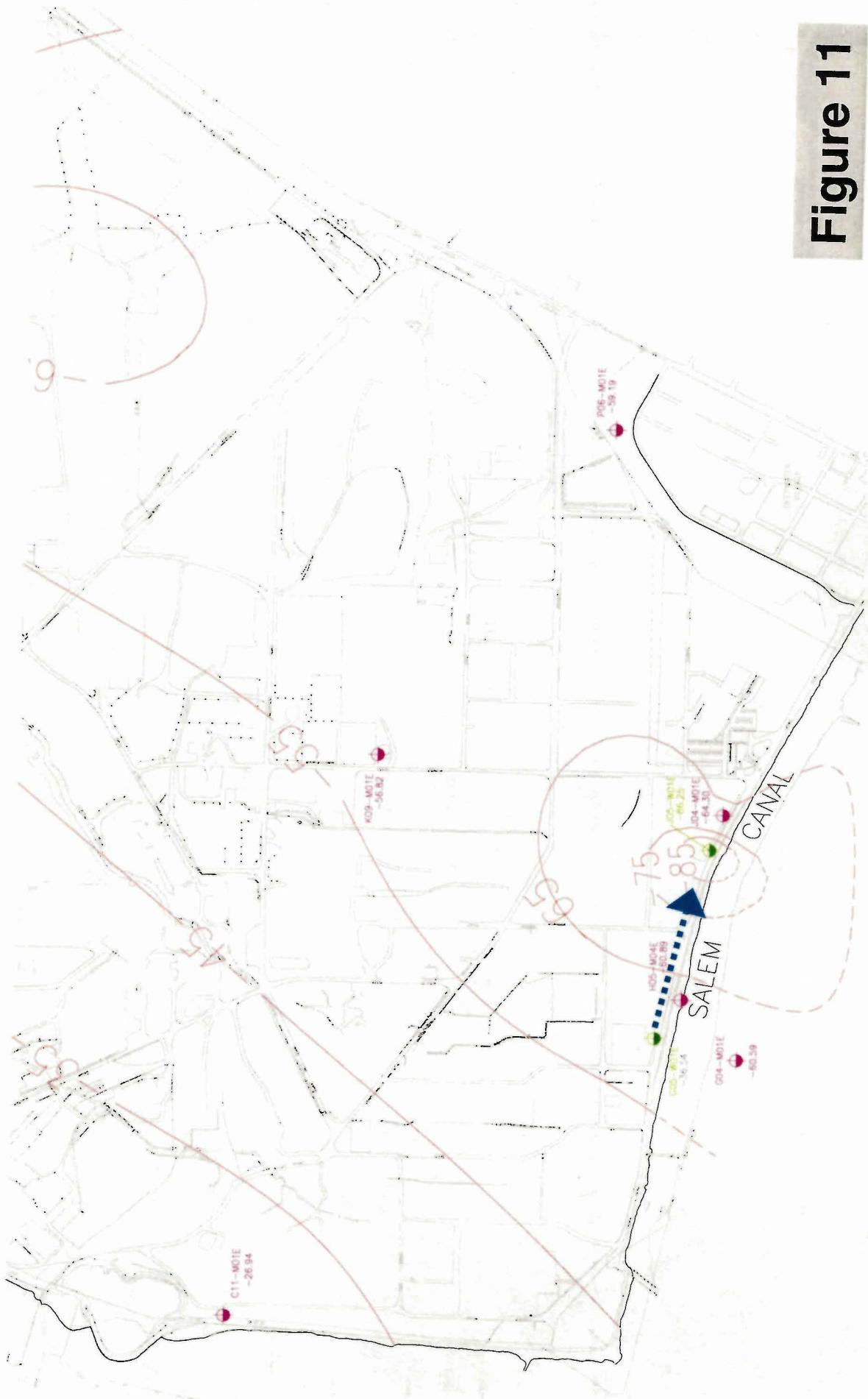
## C Aquifer Groundwater Elevation March 2003

**Figure 10**



## D Aquifer Groundwater Elevation March 2003

**Figure 11**



# E Aquifer Groundwater Elevation March 2003

**Figure 12**

